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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,167	05/10/2006	Heinrich Becker	3724.1007-000	5617

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EXAMINER	
HEINCER, LIAM J	
ART UNIT	**PAPER NUMBER**
1796	
MAIL DATE	**DELIVERY MODE**
02/27/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,167	BECKER ET AL.	
	Examiner	Art Unit	
	Liam J. Heincer	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 February 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *37-72* is/are pending in the application.

4a) Of the above claim(s) *60-68* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *37-59 and 69-72* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *37-72* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/2006 and 11/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

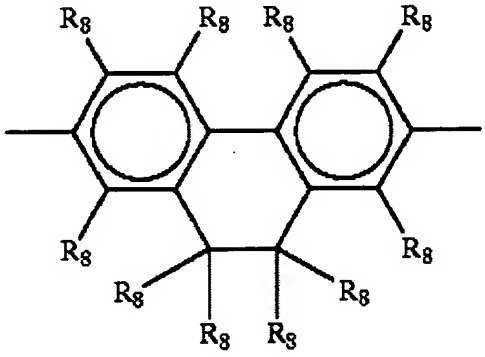
In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 37-59 and 69-72, drawn to a polymer.

Group II, claim(s) 60-68, drawn to a monomer and methods of using a monomer.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: there is no common special technical feature between the two groups. The technical feature of Group I is the structure of the polymer. This cannot be a special technical feature as it is shown in the prior art. EP 1074600 to Noguchi et al. teaches a polymer containing at least 10 mol% of units (¶0020) of units of the formula

(¶0016) where R_1 and R_2 are hydrogen, an alkyl group having 1 to 20 carbon atoms, or an aryl group with 6 to 60 carbon atoms (¶0016), and Ar_1 is



(7:30-35). Noguchi et al. teaches R_8 as being hydrogen, cyano groups, amino groups, silyl gouprs, alky or alkoxy groups with 1 to 20 carbon atoms, or an aryl or aryloxy group with 6 to 60 carbon atoms (¶0027).

During a telephone conversation with applicant's representative, Steven Davis, on January 10, 2008 a provisional election was made with oral traverse to prosecute the invention of Group I, claims

37-59 and 69-72. Affirmation of this election must be made by applicant in replying to this Office action. Claims 60-68 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Claim Objections

Claim 45 is objected to because of the following informalities: there is a typo in lines 1 and 2 such that it reads "comprises units further comprising additional units" rather than "further comprises additional units". Appropriate correction is required.

Claim 56 is objected to because of the following informalities: there is a typo in line 2 such that it reads "formulae (LXXIV)" rather than "formulae (LXXIX)". Appropriate correction is required.

Claim Rejections - 35 USC § 102

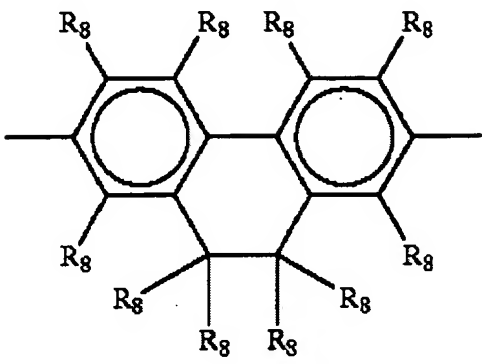
The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 37-45, 49-59 and 69-72 are rejected under 35 U.S.C. 102(b) as being anticipated by Noguchi et al. (EP 1074600).

Considering Claims 37-39, 55: Noguchi et al. teaches a polymer containing at least 10 mol% of units (¶0020) of units of the formula

(¶0016) where R_1 and R_2 are hydrogen, an alkyl group having 1 to 20 carbon atoms, or an aryl group with 6 to 60 carbon atoms (¶0016), and Ar_1 is



(7:30-35). Noguchi et al. teaches R_8 as being hydrogen, cyano groups, amino groups, silyl gouprs, alky or alkoxy groups with 1 to 20 carbon atoms, or an aryl or aryloxy group with 6 to 60 carbon atoms (¶0027).

Considering Claim 40: Noguchi et al. teaches the polymer as being conjugated (¶0016).

Considering Claims 41, 42, 49, and 50: Noguchi et al. teaches the polymer as additionally containing units that can be thiophene derivatives, pyrrole derivatives, carbazole derivatives, or furan derivatives (¶0033).

Considering Claims 43-45: Noguchi et al. teaches the polymer as additionally containing units that can be pyridine, pyrazine, anthracene, or quinoline derivatives (¶0033).

Considering Claims 51 and 52: Noguchi et al. teaches the polymer as additionally containing units that can be 1,4-phenylene, 1,4-naphtylene, 4,4'-biphenylene, or fluorene (¶0033).

Considering Claims 53 and 54: Noguchi et al. teaches the substituents as being alkyl groups with 1 to 20 carbon atoms (¶0016).

Considering Claim 56: Noguchi et al. teaches the phenanthracene units as having alkoxy substitutents with 1 to 20 carbons along with alkyl substitutens with 1 to 20 carbon atoms/formulae LXXIX and LXXXI (¶0027).

Considering Claim 57: Noguchi et al. teaches the phenanthracene units as being present in at least 41 mol% (¶0018).

Considering Claim 58: Noguchi et al. teaches the polymer as being used in a mixture (¶0061).

Considering Claim 59: Noguchi et al. teaches a solution comprising the polymer and a solvent (¶0058).

Considering Claim 69-72: Noguchi et al. teaches the polymer as being used in a polymer LED (¶0061).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 46-48 rejected under 35 U.S.C. 103(a) as being unpatentable over Noguchi et al. as applied to claim 37 above, and further in view of Baldo et al. (Appl. Phys. Lett., 75(1), 1999).
Considering Claims 46-48: Noguchi et al. teaches the polymer of claim 37 as shown above.

Noguchi et al. does not teach units that provide electrophophorescene to the polymer. However, Baldo et al. teaches using a tris(2-phenylphyridine) iridium unit in a organic LED (pg. 4). Noguchi et al. and Baldo et al. are combinable as they are concerned with the same field of endeavor, namely organic LEDs. It would have been obvious to a person having ordinary skill in the art at the time of invention to have used the iridium unit of Baldo et al. in the polymer of Noguchi et al., and the motivation to do so would have been, as Baldo et al. suggests, phosphorescent units provide high quantum and power efficiencies (pg. 4).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO Form 892.

Double Patenting

Applicant is advised that should claim 43 be found allowable, claim 45 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Liam J. Heincer whose telephone number is 571-270-3297. The examiner can normally be reached on Monday thru Friday 7:30 to 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on 571-272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LJH

January 14, 2008

MARK EASHOO, PH.D.
SUPERVISORY PATENT EXAMINER
01 | Feb | 08